



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,843	11/26/2003	John David Terry	1899.002US1	9283
21186	7590	10/06/2006	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			HANNON, CHRISTIAN A	
			ART UNIT	PAPER NUMBER
			2618	

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/723,843	TERRY, JOHN DAVID	
	Examiner	Art Unit	
	Christian A. Hannon	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is response to applicant's response filed on 06/30/2006. Claims 1-45 are now pending in the present application. **This action is made final.**

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 7-16, 20-26, 28, 31, 32, 36-41 & 43-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Eriksson et al (US 6,563,891), herein Eriksson.

Regarding claim 1, 14 & 31 Eriksson teaches a receiver (Figure 3; Eriksson) comprising a detector to acquire a wireless signal (Column 9, Lines 28-38; Eriksson) an automatic gain control to provide gain for the acquired wireless signal (Figure 3, Item 60; Eriksson) and a control unit having programmable acquisition, hold and release parameters to manage the acquisition and gain of the wireless signal based on a transmission protocol (Figure 3, Item 106/107; Column 9, Lines 44-49; Column 13, Lines 22-67; Column 14, Lines 1-32; Eriksson). The examiner is interpreting the various modes to be synonymous with the claims language describing protocols, wherein the acquisition, hold and release, relating to a beginning, duration, and end, are inherent

properties of a finite time frame in which the modes various gains are applied.

Furthermore it is noted that claims 14 & 31's system and respective method read analogous to claim 1, and are therefore rejected on the same grounds.

With regard to claims 2 & 15, Eriksson teaches the receiver & system of claims 1 & 14, respectively, wherein the control unit is programmed with a plurality of sets of acquisition, hold, and release parameters, each set related to a different transmission protocol (Column 13, Lines 32-37; Eriksson). The examiner is interpreting the various modes to be synonymous with the claims language describing protocols, wherein the acquisition, hold and release, relating to a beginning, duration, and end, are inherent properties of a finite time frame in which the modes various gains are applied. Furthermore it is noted that claim 15 is an analogous 'system' claim to that of claim 2, and is rejected similarly.

In regards to claims 3, 16 & 32, Eriksson teaches the receiver, system & method of claims 1, 14 & 31, respectively, wherein the control unit is programmed with a plurality of sets of acquisition, hold and release parameters, each set related to a different transmitting unit. Eriksson teaches that in a Hierarchical Cellular System (HCS) the multiple received signals can be indicative of each HCS transmitter each with their own necessary gain associated therewith (Column 3, Lines 47-60; Eriksson). Claim 16 is rejected similarly to claim 3, as it is the respective 'system' claim to claim 3. Claim 32 is rejected as above as it is the respective 'method' claim of claim 3.

With respect to claims 7, 20 & 36, Eriksson teaches the receiver, system and method of claims 1, 14 & 31 respectively, wherein the wireless signal is an RF signal (Column 1, Lines 20-22; Eriksson).

Regarding claims 8, 21 & 37, Eriksson teaches the receiver, system & method of claims 1, 14 & 31, respectively, wherein the control unit is adapted to regulate the automatic gain control to adjust a gain to a minimal level for detection of a wireless signal for a predetermined amount of time according to the transmission protocol (Column 6, Lines 59-66; Column 9, Lines 44-49 Eriksson). Eriksson teaches a dynamic range of receiver signal sensitivity, the dynamic range inherently having a minimal level in order to form the threshold or dynamic range. Claim 21 reads analogous to the receiver claim 8 and is rejected similarly. Claim 37 reads analogous to the receiver claim 8 and is rejected similarly.

With regard to claims 9, 22 & 38 Eriksson teaches the receiver, system & method of claims 1, 14 & 31, respectively, wherein the control unit is adapted to issue a hold command to the automatic gain control to maintain sensitivity for a next wireless transmission in a communication session defined by a transmission protocol that provides control and transmission information (Column 12, Lines 46-58; Eriksson). The examiner is interpreting the hold command to be analogous to setting the value "m" to that of one already in the processor item 106/107, in order to anticipate the next wireless transmission in the communication session, based on the symbol code, or transmission control information. Claim 22 reads analogous to the receiver claim 9 and

is rejected similarly. Claim 38 reads analogous to the receiver claim 9 and is rejected similarly.

In regard to claim 10, Eriksson teaches the receiver of claim 1 in addition to wherein the hold command to the automatic gain control includes a length of time to maintain the sensitivity (Column 13, Lines 1; Eriksson). Eriksson teaches that the value 'm' interpreted in this action as the hold command is an indicator of speed, or a length of time.

With respect to claims 11, 23 & 39, Eriksson teaches the receiver, system & method of claims 1, 14 & 31 respectively, wherein the control unit is adapted to issue a hold command the automatic gain control for a predetermined gain level to minimize the acquisition time for a wireless signal for a new communication session (Column 14, Lines 22-30; Eriksson). Eriksson teaches that when an accurate prediction cannot be made it can revert to a default gain to maximize session acquisition. Claim 23 reads analogous to the receiver claim 11 and is rejected similarly. Claim 39 reads analogous to the receiver claim 11 and is rejected similarly.

Regarding claims 12, 24 & 40 Eriksson teaches the receiver, system & method of claims 1, 14 & 31, respectively, wherein the control unit is adapted to regulate the automatic gain control to increase a sensitivity when a communication session is ended (Column 8, Lines 18-32; Column 12, Lines 30-37; Eriksson). Eriksson teaches that the gain is recalibrated at the end of a communication session in order to compensate for changes in the next sessions signal strength. Claim 24 reads analogous to the receiver

claim 12 and is rejected similarly. Claim 40 reads analogous to the receiver claim 12 and is rejected similarly.

With regard to claims 13, 25 & 41 Eriksson teaches the receiver, system & method of claims 1, 14 & 31, respectively, wherein the control unit is adapted to regulate the automatic gain control to increase sensitivity when a wireless signal is not present during a period in a communication session in which the transmission protocol indicates a wireless transmission is scheduled (Column 13, Lines 46-51; Eriksson). Eriksson teaches that the sensitivity is adjusted (inc. or dec.) when the device comes out of a sleep mode, where it establishes contact with a base tower, (a wireless transmission is always 'scheduled') however at first 'waking up' no wireless signal is present. Claim 25 reads analogous to the receiver claim 13 and is rejected similarly. Claim 41 reads analogous to the receiver claim 13 and is rejected similarly.

In regards to claim 26, Eriksson teaches the system of claim 14, wherein the control unit regulates the automatic gain control to adjust a gain to a minimal level to detect a wireless signal for a predetermined amount of time according to the transmission protocol to minimize unnecessary and unwanted amplification of electromagnetic interference during a data off portion of the wireless modulated transmission (Column 7, Lines 22-65; Eriksson). Eriksson teaches that based on a CDMA protocol the gain of the transmitted signal must be arranged dynamically so that when no transmission is being received at the receiver the unwanted noise is not being amplified. The predetermined time being the speed of the CDMA symbol codes.

In regards to claims 28 & 43, Eriksson teaches the system of claim 14, wherein the system further includes a transmitting subsystem (Figure 2, Item 103; Eriksson).

Regarding claim 44, Eriksson teaches the receiver system & method of claim 31, in addition Eriksson teaches wherein the method further includes transmitting a wireless signal from a hearing aid for a communication session with another hearing aid that receives the wireless signal. Eriksson teaches that his device may be used in a cellular communication device, or hearing aid (Column 5, Lines 51-54; Eriksson).

With respect to claim 45, Eriksson teaches method of claim 31, in addition Eriksson teaches wherein the method further includes transmitting a wireless signal from a hearing aid programming unit for a communication session with a hearing aid that receives the wireless signal. Eriksson teaches that his device may be used in a cellular communication device, or hearing aid (Column 5, Lines 51-54; Eriksson).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-6, 17-19, 27, 30, 33-35 & 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson in view of Rembrand et al (US 2004/0234089).

Regarding claims 4-6, 17-19 & 33-35, Eriksson teaches the receiver, system & method of claims 1, 14 & 31 respectively, however Eriksson fails to explicitly teach

wherein the wireless signal is a signal using an electrostatic field, magnetic field or an electromagnetic field. Rembrand et al teach use of a wireless signal that can be an electrostatic field, magnetic field or an electromagnetic field (Page 4, [0049]; Rembrand et al). It would have been obvious to modify Eriksson to include wireless compatibility for an electrostatic field, magnetic field or an electromagnetic field, such as that taught by Rembrand et al in order to broaden the applicable scope of the AGC circuit.

In regards to claims 27 & 42, Eriksson teaches the system and method of claims 14 & 31, respectively, however Eriksson fails to explicitly teach wherein the system and method further include operation in a hearing aid. Rembrand et al teach wherein the system and method further include operation in a hearing aid (Figure 6, Items 340 & 372; Page 10, [0117]; Rembrand et al). It would have been obvious to modify Eriksson to include its operation in a hearing aid in order to facilitate AGC in a hearing aid.

Response to Arguments

5. Applicant's arguments, see page 8, line 5, filed 6/30/2006, with respect to claims 10, 29, 44 & 45 have been fully considered and are persuasive. The 112 rejection of claims 10, 29, 44 & 45 has been withdrawn.

6. Applicant's arguments filed 6/30/2006 have been fully considered but they are not persuasive.

Regarding applicant's arguments to claims 1, 14 & 31 apparatus, system and method applicant asserts that Eriksson et al's operation modes are not synonymous

with transmission protocols as has been recited in the rejection. The applicant is reminded that the examiner cannot read limitations into the claim from the specification. Eriksson et al teaches an automatic gain control (AGC) receiver which, based upon different transmitted frequencies, indicative of modes, or transmission protocols (that which is sent [transmission] in a particular manner [protocol]), the receiver will select an appropriate mode, or protocol and manage the acquisition and gain of the wireless signal accordingly. The applicant further argues that Eriksson et al does not teach a control unit having programmable acquisition, hold, and release parameters, however the examiner respectfully disagrees. Eriksson et al repeatedly teach AGC for various modes or transmission protocols, as the applicant's vague claim currently reads. These parameters could be interpreted a number of ways, the examiner maintains that in addition to being interpreted as particular periods of a finite time (acquisition: the primary instant, hold: the duration of the finite time, and release: the instant the time ceases) which is inherent in any signal, Eriksson et al further teaches AGC which inherently contains the applicants admitted definitions of acquisition, hold and release ("acquisition of an incoming signal includes attack (generally an initialization time for a detected signal to transition from a minimum level to a maximum signal level) and lock onto the incoming signal, a hold time is a period of time for which a gain for an incoming signal or a sensitivity for an incoming signal is maintained at a relatively constant level and a release is the release of a hold allowing a gain or sensitivity level to autonomously increase to a level dependent upon detecting an incoming signal ".). Applicant argues that Eriksson et al's parameters "n", "V", "m" & "G" are not

synonymous, the examiner agrees, these programmable parameters do not correctly correlate to the acquisition hold and release times, however they do cause the AGC of Eriksson et al's teaching and by doing so inherently effect the gain control parameters inherent in any AGC defined by acquisition, hold and release, and thereby Eriksson et al reads on the applicants currently recited claim language. Stated differently, Eriksson et al teaches a novel way to effect the acquisition, hold and release parameters inherent in AGC, through use of the novel parameters "n", "V", "m" & "G" (Column 3, Lines 47-64; Column 4, Lines 7-13; Column 8, Lines 63-67; Column 9, Lines 1-8, 44-49; Column 13, Lines 21-27; Eriksson et al)

In regards to claims 4-6, 17-19, 27, 30, 33-35 & 42 the examiner maintains that the use of rejection under Eriksson et al was proper and the rejection of the aforementioned claims in view of Rembrand et al as well stay rejected.

The examiner acknowledges the applicant's reservation of rights.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2618

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christian A. Hannon
September 26, 2006

 9/29/06

QUOCHIEN B. VUONG
PRIMARY EXAMINER